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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

MULLIS, JEFFREY C

ART UNIT PAPER NUMBER

1711

DATE MAILED: 09/30/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/085,103

Applicant(s)

CHEN ET AL.

Examiner

Jeffrey C. Mullis

Art Unit

1711

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 16 April 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

Art Unit 1711

The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

The oath or declaration is defective because:

It does not state that the person making the oath or declaration acknowledges the duty to disclose to the Office all information known to the person to be material to patentability as defined in 37 CFR 1.56.

The specification at page 7 line 11 contains the term "flaming sulfuric (sic)". It is believed that "fuming sulfuric" is intended since the term "flaming sulfuric" is not art recognized. Correction is required.

The claims are full of grammatical errors such as "grafted onto the main chain of the macromolecular", "group to become ionomer" (sic), etc. Correction is required.

35 U.S.C. § 112, first paragraph, requires the specification to be written in "full, clear, concise, and exact terms." The specification is replete with terms which are not clear, concise and exact. The specification should be revised carefully in order to comply with 35 U.S.C. § 112, first paragraph. Examples of some unclear, inexact or verbose terms used in the specification are: "cluster of hydrophile property (sic)" at the bottom of page 1; "price of the material is extremely expansive", top of page 2; "during low grafting rate", page 5 line 9; "elastmers", page 7 line 26 etc.

Art Unit 1711

Claims 1-20 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicants regard as the invention.

The term "composite" is unclear given that the specification discloses nothing more about forming the composites except that applicant's components are merely mixed together. Therefore those skilled in the art when viewing applicant's disclosure would question whether applicant intended that the term "composite" actually meant composite as the term is understood by those skilled in the art or in fact merely meant a mixture or blend.

The term "SPS" in claim 1 is not defined and is therefore unclear. While the term "SPS" is often indicated in the art to mean syndiotactic polystyrene, applicants' method of manufacture as disclosed by the specification merely involves the free radical polymerization of styrene such as those skilled in the art would understand would not yield syndiotactic polystyrene and as applicants' specification discloses nothing about "syndiotactic polystyrene", it does not appear that "SPS" is meant to indicate syndiotactic polystyrene.

The term "around" as recited in claim 3 is subjective and therefore unclear.

The term "molecular weight" is unclear where unqualified as to the type of molecular weight, for instance number or weight average molecular weight since the various ways of expressing molecular weight differ depending on the type of molecular weight intended. The term "molecular weight" appears in at least claim 4 without qualification as to the type of molecular weight.

The term "grafting rate" as recited in at least claim 5 is unclear since it is not stated what the percentages are based upon. For instance grafting rate could be based on the total amount of polystyrene side product based at present in a product resulting from grafting or the molar amount of styrene as compared to the amount of moles of backbone monomer etc. Claim 8 is similarly unclear with regard to the term "sulphonating rate" recited in at least claim 8 is similarly unclear in that it is not stated what the sulphonated rate is based on.

The term "adding amount proportion" as recited in at least claim 10 is not art recognized and is therefore unclear.

The term "SPS" is unclear for the reasons set out above with regard to claim 1 throughout the claims.

The term "compounds belong to diamine or peroxide" as appears in at least claims 3 and 13 is unclear since a compound cannot belong to a compound such as a diamine or a peroxide but rather a diamine or peroxide is a single material and not made up of multiple materials.

Art Unit 1711

Tradenames such as "Viton" as appears in at least claim 20 are improper since the meaning of a tradename may change at the whim of the manufacturer.

The term "proportion of its adding weight" is not art recognized and is therefore unclear.

Vigo, cited of interest by the examiner is the closest prior art but fails to teach or suggest a composition containing other than applicants' PVDF graft copolymer.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey Mullis whose telephone number is (703) 308-2820. The examiner can normally be reached on Monday-Friday from 9:30 to 6:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck, can be reached on (703) 308-2462. The fax phone number for this Group is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-2351.

J. Mullis:cdc

September 26, 2003

Jeffrey Mullis  
Primary Examiner  
Art Unit 1711

